



CIVIL AIM CONSULTANTS & ENGINEERS

(Building Geo-Tech & Highway Materials Testing Laboratory)

An ISO 9001-2015 Certified Company
NABL Accredited As Per ISO/IEC 17025:2017 Laboratory



QC ABSTRACT

Name of Work: Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.

Sl. No.	Item	Quantity As Per BOQ	Required No's of testes	Actual No's of testes	Testes	Frequency
1	Materials	-	1	1	Cement	One Test Per Lot
					Sand, Aggregates	
2	Slab (100mm)	204.12Sqm	1	1	Concrete Core Compressive Strength	-
3	WMM	230.04Cum	-	-	-	-
		Atterberg limits	3	3	-	-
		AIV	2	2	-	-
		Shape Test	2	2	-	-
		Gradation	3	3	-	-
4	DBM	76.68Cum	-	-	-	-
		Quality of Binder	1	1	-	-
		AIV	1	1	-	-
		Shape Test	1	1	-	-
		Gradation	1	1	-	-
		Specific Gravity	1	1	-	-
		Stability of Mix	2	2	-	-
		Bitumen content	2	2	-	-
5	BC	205.23 Cum	-	-	-	-
		Quality of Binder	1	1	-	-
		AIV	1	1	-	-
		Shape Test	1	1	-	-
		Gradation	1	1	-	-
		Specific Gravity	1	1	-	-
		Stability of Mix	5	5	-	-
		Bitumen content	5	5	-	-

Cubes

0-5 Cum 1Set
6-15 Cum 2Set
16-30 Cum 3Set
31-50 Cum 4Set
Add 1set for extra 50Cum

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Seetha S. S.



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Job No.: CACE/BBMP/SNM/W.No.14/2022-23

Date: 04.07.2022

TEST REPORT

CLIENT	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	:	Sri Shivakumar N M, Contractor, Bangalore.
NAME OF THE WORK	:	Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
SAMPLE ID	:	Cement (Birla OPC 53 Grade)
DATE OF MANUFACTURE		June - 2022
DATE OF TESTING		02.07.2022 to 04.07.2022
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 269-2015
1	a) Initial Setting Time	IS-4031 (Part -5)	145 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	340 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm
3	Standard Consistency	IS-4031 (Part -4)	29.50 %	-

Note:

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ಇಲ್ಲದಿದ್ದರೆ ಮಾತ್ರ
13.07.2022 ರಂದು

[Signature]

For CIVIL AIM CONSULTANTS & ENGINEERS

[Signature] S.C

Authorised Signatory

No. 01, Satvika Nilaya, Opp. Widia Poorna Prajna School,
Ramalah Layout, Nagasandra, Bangalore - 560 073.

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Job No.: CACE/BBMP/SNM/W.No.14/2022-23

Date : 04.07.2022

TEST REPORT ON FINE AGGREGATES (SAND)

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency : Sri Shivakumar N M, Contractor, Bangalore.
Name of Work : Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
Date of Testing : 04.07.2022
IS Code : IS 383:2016
: IS 2386 (Part 1):1963(RA 2011)
Material : Sand

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	95	9.50	9.50	90.5	90-100
2.36	145	14.50	24.00	76.0	75-100
1.18	189	18.90	42.90	57.1	55-90
600 Micron	175	17.50	60.40	39.6	35-59
300 Micron	220	22.00	82.40	17.6	8-30
150 Micron	139	13.90	96.30	3.7	0-10

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[Signature] of CIVIL AIM CONSULTANTS & ENGINEERS
Sukanta. S. C.
Authorised Signatory



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Job No.: CACE/BBMP/SNM/W.No.14/2022-23

Date : 04.07.2022

TEST REPORT ON FINE AGGREGATES (SAND) IS 2116-1980

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency : Sri Shivakumar N M, Contractor, Bangalore.
Name of Work : Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
Date of Testing : 04.07.2022
Material : Sand - Masonry

Total wt. of aggregates in gms = 1000

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits as per IS 2116-1980
4.75	0	0.00	0.00	100.0	100
2.36	17	1.70	1.70	98.3	90-100
1.18	38	3.80	5.50	94.5	70-100
600 Micron	91	9.10	14.60	85.4	40-100
300 Micron	259	25.90	40.50	59.5	5-70
150 Micron	485	48.50	89.00	11.0	0-15

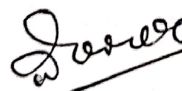
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For CIVIL AIM CONSULTANTS & ENGINEERS

Su'kath. S. C.

 Authorised Signatory



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Job No.: CACE/BBMP/SNM/W.No.14/2022-23

Date: 08.07.2022

PRECAST SLAB 100mm Thick(CORE) TEST REPORT

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Contractor : Sri Shivakumar N M, Contractor, Bangalore.
Name of Work : Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
No. of Sample Tested : 03
Date of Testing : 08.07.2022
Technical Reference : IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete : M₂₀

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m ³)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm ²)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm ²)	Equivalent Cube Compressive Strength (N/mm ²)
1	50.00	82.00	0.375	2329.10	1.64	0.961	32.70	16.65	17.99	17.29	21.61
2	50.00	84.00	0.389	2358.52	1.68	0.965	33.50	17.06	18.43	17.79	22.24
3	50.00	86.00	0.402	2380.66	1.72	0.970	33.90	17.27	18.65	18.08	22.60

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ಓ ದಾಖಲೆಗಾಗಿ ದಯೆ

For CIVIL AIM CONSULTANTS & ENGINEERS

[Signature]

Srikath. S.C

Authorised Signatory



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Job No.: CACE/BBMP/SNM/W.No.14/2022-23

Date :14.07.2022

GRADATION FOR WMM

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency : Sri Shivakumar N M, Contractor, Bangalore.
Name of Work : Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
IS Code: : IS 2386 (Part 1):1963(RA 2011)
Date of Testing :14.07.2022
Material Type : Wet Mix Macadam

Oven Dry.Wt, gram

10000

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Requirement as per MORTH 5th edition table no 400.13
53	0	0	0	100	100
45	199	199	2.0	98.0	95-100
22.4	2539	2738	27.4	72.6	60-80
11.2	2169	4907	49.1	50.9	40-60
4.75	1839	6746	67.5	32.5	25-40
2.36	1179	7925	79.3	20.8	15-30
0.600	629	8554	85.5	14.5	8-22
0.075	1232	9786	97.9	2.1	0-5

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Authorised Signatory

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Date :14.07.2022

GRADATION FOR WMM

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency : Sri Shivakumar N M, Contractor, Bangalore.
Name of Work : Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
IS Code: : IS 2386 (Part 1):1963(RA 2011)
Date of Testing :14.07.2022
Material Type : Wet Mix Macadam

Oven Dry.Wt, gram

10000

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Requirement as per MORTH 5th edition table no 400.13
53	0	0	0	100	100
45	198	198	2.0	98.0	95-100
22.4	2530	2728	27.3	72.7	60-80
11.2	2165	4893	48.9	51.1	40-60
4.75	1840	6733	67.3	32.7	25-40
2.36	1180	7913	79.1	20.9	15-30
0.600	626	8539	85.4	14.6	8-22
0.075	1236	9775	97.8	2.3	0-5

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For CIVIL AIM CONSULTANTS & ENGINEERS
S. K. S. C.

For CIVIL AIM CONSULTANTS & ENGINEERS

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GRADATION FOR WMM

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency : Sri Shivakumar N M, Contractor, Bangalore.
Name of Work : Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
IS Code: : IS 2386 (Part 1):1963(RA 2011)
Date of Testing :14.07.2022
Material Type : Wet Mix Macadam

Oven Dry.Wt, gran 10000

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Requirement as per MORTH 5th edition table no 400.13
53	0	0	0	100	100
45	187	187	1.9	98.1	95-100
22.4	2536	2723	27.2	72.8	60-80
11.2	2155	4878	48.8	51.2	40-60
4.75	1845	6723	67.2	32.8	25-40
2.36	1189	7912	79.1	20.9	15-30
0.600	582	8494	84.9	15.1	8-22
0.075	1232	9726	97.3	2.7	0-5

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Srikanth S.C.

Authorised Signatory

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Job No.: CACE/BBMP/SNM/W.No.14/2022-23

Date: 14.07.2022

Aggregate Impact Value

Client	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency	Sri Shivakumar N M, Contractor, Bangalore.
Name of the Work	Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
IS Code	IS 2386 (Part 4):1963(RA 2011)
Type of Mix	Wet Mix macadam
Date of Testing	14.07.2022

Sl No.	Details	Test No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	380	384	22.71
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	86	87.5	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	294	296.5	
4	Aggregate Impact value = percent fines $100 * (W_2/W_1)\%$	22.63	22.79	

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30% (As per MORTH Specification table 400.12)

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ಆ ದಾಖಲೆಗಳನ್ನು ಸೂಚನೆ

Signature

For CIVIL AIM CONSULTANTS & ENGINEERS

Srikath. S C.

Authorised Signatory

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Date: 14.07.2022

Aggregate Impact Value

Client	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency	Sri Shivakumar N M, Contractor, Bangalore.
Name of the Work	Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
IS Code	IS 2386 (Part 4):1963(RA 2011)
Type of Mix	Wet Mix macadam
Date of Testing	14.07.2022

Sl No.	Details	Test No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	378	381	22.33
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	84.5	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	293.5	296	
4	Aggregate Impact value = percent fines $100 * (W_2/W_1)\%$	22.35	22.31	

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30% (As per MORTH Specification table 400.12)

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N. SHIVAKUMAR N.M.

For CIVIL AIM CONSULTANTS & ENGINEERS
Sri Kanth. S.C.

Authorised Signatory

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Job No.: CACE/BBMP/SNM/W.No.14/2022-23

Date : 14.07.2022

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency	Sri Shivakumar N M, Contractor, Bangalore.
Name of Work	Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
BIS code:	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	14.07.2022

Sl no	Test	1	2	Requirements as per MORTH 5th edition table no 400.12
1	Flakiness Index %	11.90	12.10	Combined Flakiness & Elongation index Max 35%
2	Elongation Index %	13.30	13.20	
	Combined Flakiness & Elongation index	25.20	25.30	

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ಓ ದಾಖಲೆ, ಉಪ ವಿಭಾಗ

[Signature]

For CIVIL AIM CONSULTANTS & ENGINEERS

[Signature]

Authorised Signatory



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Job No.: CACE/BBMP/SNM/W.No.14/2022-23

Date : 14.07.2022

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency	Sri Shivakumar N M, Contractor, Bangalore.
Name of Work	Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
BIS code:	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	14.07.2022

Sl no	Test	1	2	Requirements as per MORTH 5th edition table no 400.12
1	Flakiness Index %	12.60	12.50	Combined Flakiness & Elongation index Max 35%
2	Elongation Index %	13.70	13.30	
	Combined Flakiness & Elongation index	26.30	25.80	

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For CIVIL AIM CONSULTANTS & ENGINEERS
Srikanth. S.C.
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Job No: CACE/BBMP/SNM/W.No.14/2022-23

Date :14.07.2022

ATTERBERG LIMITS TEST FOR WMM

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency : Sri Shivakumar N M, Contractor, Bangalore.
Name of Work : Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
IS Code: : IS 2720(Part 5):1985
Date of Testing : 12.07.2022 to 14.07.2022
Material Type : Wet Mix Macadam

Sl. No.	Particulars	Test Results	Requirement as per MORTH 5th edition Cl.406.2.1.2
1	Liquid Limit	23.00	-
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

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For CIVIL AIM CONSULTANTS & ENGINEERS
Seikath. SC.
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Date :14.07.2022

ATTERBERG LIMITS TEST FOR WMM

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency : Sri Shivakumar N M, Contractor, Bangalore.
Name of Work : Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
IS Code: : IS 2720(Part 5):1985
Date of Testing : 12.07.2022 to 14.07.2022
Material Type : Wet Mix Macadam

Sl. No.	Particulars	Test Results	Requirement as per MORTH 5th edition Cl.406.2.1.2
1	Liquid Limit	21.00	-
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

Note:

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[Signature] S. C.

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Job No.: CACE/BBMP/SNM/W.No.14/2022-23

Date :14.07.2022

ATTERBERG LIMITS TEST FOR WMM

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency : Sri Shivakumar N M, Contractor, Bangalore.
Name of Work : Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
IS Code: : IS 2720(Part 5):1985
Date of Testing : 12.07.2022 to 14.07.2022
Material Type : Wet Mix Macadam

Sl. No.	Particulars	Test Results	Requirement as per MORTH 5th edition Cl.406.2.1.2
1	Liquid Limit	22.50	-
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

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JobNo: CACE/BBMP/SNM/W.No.14/2022-23

Date : 18.07.2022

TEST RESULTS OF AGGREGATE SHAPE TEST (Flakiness & Elongation)

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency : Sri Shivakumar N M, Contractor, Bangalore.
Name of work : Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
BIS Code : IS 2386 Part (1):1963
Date of Test : 18.07.2022
Type of Mix : Dense Graded Bituminous Macadam

Sl.No.	Flakiness Index Value(%)	Elongation Index Value(%)	Total(Combined Flakiness and Elongation)(%)	Requirements
1	12.90	13.70	26.60	Maximum allowable Combined Flakiness and Elongation Indices for Dense Graded Bituminous Macadam is 35% as per Table 500.8 MORTH Specification.
2	12.50	13.50	26.00	

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Sulath S. C.
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Job No: CACE/BBMP/SNM/W.No.14/2022-23

Date : 18.07.2022

TEST RESULTS OF AGGREGATE IMPACT VALUE

Client : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.

Agency : Sri Shivakumar N M, Contractor, Bangalore.

Name of work : Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.

Source / Location : Hot Mix Plant, Bangalore

BIS Code : IS 2386 Part (4):1963

Type of Mix : Dense Graded Bituminous Macadam

Date of test : 18.07.2022

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W1 g	386	385	
2	Weight of aggregate passing 2.36 mm sieve after the test = W2 g	87	89	
3	Weight of aggregate retained 2.36 mm sieve after the test = W3 g	300	297	
5	Aggregate Impact value = percent fines	22.41	22.99	22.70
	100* (W2/W1) percent			

Comments:

→ Maximum allowable Aggregate Impact value for Dense Graded Bituminous Macadam is 27% (Table 500-8 of MORTH specification)

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Srikanth S C
Authorised Signatory

Suresh



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Date: 18.07.2022

Aggregate Gradation Test

Client	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency	Sri Shivakumar N M, Contractor, Bangalore.
Name of the Work	Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
BIS Code	IS 2386(Part 1):1963(RA 2011)
Sample I / D	Hot mix Plant, Bangalore.
Type of Mix	Dense Graded Bituminous Macadam
Date of Testing	18.07.2022

Total Weight of Sample: 10000 gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Requirement as per MORTH table 500.10	Remarks
37.50	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
26.50	721	7.2	7.21	92.79	90 - 100	
19.00	1249	12.5	19.70	80.30	71 - 95	
13.20	1377	13.8	33.47	66.53	56 - 80	
4.75	2501	25.0	58.48	41.52	38 - 54	
2.36	1109	11.1	69.57	30.43	28 - 42	
0.300	1345	13.5	83.02	16.98	7 - 21	
0.075	1199	12.0	95.01	4.99	2 - 8	

Total Weight of Sample: 10000 gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Requirement as per MORTH table 500.10	Remarks
37.5	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
26.5	695	7.0	6.95	93.05	90 - 100	
19	1408	14.1	21.03	78.97	71 - 95	
13.2	1141	11.4	32.44	67.56	56 - 80	
4.75	2418	24.2	56.62	43.38	38 - 54	
2.360	1164	11.6	68.26	31.74	28 - 42	
0.300	1311	13.1	81.37	18.63	7 - 21	
0.075	1181	11.8	93.18	6.82	2 - 8	

Note:

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Job No: CACE/BBMP/SNM/W.No.14/2022-23

Date: 18.07.2022

TEST REPORT ON PAVING BITUMEN

Client	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency	Sri Shivakumar N M, Contractor, Bangalore.
Name of work	Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
BIS Code	IS 73:2013, IS 1203:1978, IS 1208:1978, IS 1205:1978, IS 1448(P-69):1969
Date of Testing	18.07.2022
Type of Mix	Dense Graded Bituminous Macadam , VG 30
Source of Location	Hot Mix Plant

The results of the tests conducted on the bitumen sample using for Dense Graded Bituminous Macadam

Sl.No	Description	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 0C, 100gms, 5sec, 1/10 mm	52	Min 45
2	Softening point, 0C	50	Min 47
3	Ductility at 250C, cm	>100	Min 40
4	Flash Point, 0C	274	Min 220

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Sukanta S. C.

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Job No.: CACB/BBMP/SNM/W.No.14/2022-23

Date: 20.07.2022

Specific Gravity And Water Absorption Test

Client	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Agency	Sri Shivakumar N M, Contractor, Bangalore.
Name of the Work	Comprehensive Development works in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
BIS Code	IS 2386(Part 3):1963
Type of Mix	Dense Graded Bituminous Macadam
Date of Testing	18.07.2022 to 20.07.2022

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	$W_1 g$	2023	2021	2024	
2	Weight of basket suspended in water	$W_2 g$	757	758	756	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s g$	1266	1263	1268	
4	Weight of saturated surface dry aggregate in air	$W_3 g$	2017	2016	2015	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_s) g$	751	753	747	
6	Weight of oven dried aggregate	$W_4 g$	2007	2007	2005	
7	Specific Gravity	$W_4 / (W_3 - W_s)$	2.672	2.665	2.684	2.674
8	Apparent Specific gravity	$W_4 / (W_4 - W_s)$	2.709	2.698	2.720	2.709
9	Water Absorption	$((W_3 - W_4) * 100) / W_4$	0.50%	0.45%	0.50%	0.48%

Comments:

→ Maximum allowable Aggregate Water absorption value for Dense Graded Bituminous Macadam is 2.0% (As per MORTH table 500.8)

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